

REMARKS

Applicants have studied the *Office Action* mailed July 3, 2003, and have made amendments to the claims. By virtue of this response, claims 1-26 are pending. Claims 1-26 have been amended. It is respectfully submitted that the application, as amended, is in condition for allowance. Applicants respectfully request reconsideration and allowance of the claims in view of the above amendments and the following remarks.

Claims 18 and 20 were interpreted to be directed to “the guar gum powder product” as stated at the beginning of the respective claims. Applicants do not disagree with the Examiner’s interpretation that claims 18 and 20 are so directed.

Claims 2, 10, and 24 were objected to under 37 CFR §1.75(c), as being of improper dependent form. Claim 10 was further objected to because of an informality. Applicants have made amendments to the claims taking the Examiner’s comments into account. Applicants respectfully request withdrawal of these objections to claims 2, 10, and 24.

Claims 1, 2, and 5-24 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 4,269,975 to Rutenberg et al. (“the Rutenberg et al. ’975 patent”). Claims 1, 3, 4, 23, and 25-26 were rejected under 35 U.S.C. §103(a) as being obvious over the Rutenberg et al. ’975 patent in view of U.S. Patent No. 5,646,093 to Dino (“the Dino ’093 patent”), U.S. Patent No. 5,990,052 to Harris (“the Harris ’052 patent”), and the portions of Applicants’ own specification cited by the Examiner. These rejections are respectfully traversed.

Claim 1, as amended, recites “processing the hydrated splits, said processing step including the substeps, **in either order**, of *flaking the splits* and *extruding the splits*” and

“grinding said processed splits into a powder, **the powder having a particle size, wherein the particle size is substantially unaffected by extruding the splits**” (emphasis added). Claims 19, 21, and 23, as amended, have similar recitations. The Rutenberg et al. '975 patent, the Dino '093 patent, the Harris '052 patent, and/or the portions of Applicants' specification cited by the Examiner do not disclose, teach or suggest grinding said processed splits into a powder, **the powder having a particle size, wherein the particle size is substantially unaffected by extruding the splits**, as recited in the claims, as amended.

Moreover, each of independent claims 1, 19, 21, and 23 recites that the guar splits are subjected to **both** an **extrusion** step **and** a **flaking** step during processing. For example, independent claim 1 recites “processing the hydrated splits, said processing step including the substeps, in either order, of **flaking the splits and extruding the splits**” (emphasis added). Independent claims 19, 21, and 23 have similar recitations. Thus, each of these claims requires the limitations of both **extruding and flaking**. On page 4 of the *Written Description*, lines 6-11, Applicants state, regarding the **advantages** of both **extruding and flaking**, that:

The inclusion of the step of **extruding** the hydrated splits in the manufacturing process has been found to create a guar gum powder product which has **advantageous properties over the prior art**. These **advantageous properties** include (1) **increasing the hydration rate and hydration acceleration rate** of the guar gum powder without any corresponding change in particle size, and (2) **providing a hydration acceleration rate** that is less affected by cold temperatures. *Written Description* at page 4, lines 6-11 (emphasis added).

Nothing in the Rutenberg et al. '975 patent teaches or suggests this processing of the hydrated splits, the processing step including the substeps, **in either order, of flaking the splits and extruding the splits**, as recited in claims 1, 19, 21, and 23. The Examiner acknowledges on page 3 of the *Office Action* mailed July 3, 2003, that “*Rutenberg* differs from the present

invention in that the use of both flaking and extruding, in the preparation of the ground guar is not disclosed.” Applicants agree with the Examiner on this point. However, the Examiner proceeds to allege that this limitation would be obvious in view of the Rutenberg et al. '975 patent because “combining such methods would not be patentable, since it would logically flow that the combination would produce the **same** effect, and would **supplement** each other” (emphasis added). On this point, Applicants respectfully disagree.

The Rutenberg et al. '975 patent primarily teaches the use of extruding the guar splits prior to the grinding of the guar splits (col. 6, lines 13-18). The Rutenberg et al. '975 patent does not disclose or even suggest **both extruding and flaking** the guar splits, much less that the **extruding and flaking** can be performed in **either order**, not least because **both extruding and flaking** are never disclosed as being performed **together** in any of the numerous examples given in the Rutenberg et al. '975 patent. Moreover, the Rutenberg et al. '975 patent actually *teaches away* from **both extruding and flaking** the guar splits by downplaying the effectiveness of the *flaking* step. For instance, in Example II, the Rutenberg et al. '975 patent compares the viscosity of guar gums prepared by *extruding* the guar splits prior to grinding with the viscosity of guar gums prepared conventionally by *flaking* the guar splits prior to grinding the guar splits, as in the prior art (col. 5, line 67–col. 6, line 2, and col. 6, lines 22-68). “The results show that, although the use of flattening (*flaker*) rolls gives a gum with higher viscosity-producing properties than gum prepared without the flattening rolls, **the use of an extruder under the same operational conditions gives gums with much higher viscosity-producing properties**” (col. 7, lines 15-20) (emphasis added). Similarly, in Example III, the Rutenberg et al. '975 patent compares **extruded** and **non-extruded** gums **similarly** processed using varied hydration conditions (time,

temperature, and % water on splits), with the results showing “that the **extruded** guar gums **always** have **higher viscosities** than the **non-extruded** control guar gums even when the hydration conditions are varied and are not the optimum.” (col. 7, lines 30-33, and col. 8, lines 61-64) (emphasis added).

Likewise, in Example IV, the Rutenberg et al. '975 patent “demonstrates that **extrusion**, even under varying **extruder** conditions which were not the optimum attainable, still produces gums with **improved** viscosity-producing properties,” with the results showing “that **extrusion** **always improves** the viscosity-producing properties of the resulting gums even when no die is present” (col. 8, line 66, to col. 9, line 2, and col. 9, lines 34-36) (emphasis added). Similarly, in Example VII, the Rutenberg et al. '975 patent “demonstrates that sorting, used in our usual testing procedure for comparison of the viscosity values, is not necessary and that **extrusion** **improves** the viscosity-producing properties of the resulting unsorted gum,” with the result that “the screened gum had a viscosity slightly higher than the unscreened gum and that **extrusion** **considerably improved** the viscosity even when the product was not screened,” where “[i]t should be noted that the unscreened gum will usually have a lower viscosity” (col. 10, lines 17-21, and col. 10, lines 47-52)(emphasis added).

Lastly, in Example VIII, the Rutenberg et al. '975 patent “compares the viscosity evaluation procedure used in this specification with the viscosity evaluation procedure described in U.S. Patent No. 2,891,050 (Example [II]), i.e., a] patent which describes the **flaking (flattening)** process of the prior art,” with the results showing “that the viscosity improvement was due to **extrusion** and not to the evaluation procedure used and that the values were ***much higher*** than those reported in U.S. Patent No. 2,891,050 for the **flaking (flattening)** method,

i.e.,] 1025-2400 cps” (col. 10, lines 55-59, and col. 11, lines 17-21) (emphasis added). Notably absent in the Rutenberg et al. '975 patent is any disclosure, teaching, or even a hint of a suggestion or motivation of processing hydrated splits, with the processing step including the substeps, **in either order, of flaking the splits and extruding the splits**, as recited in the claims. Nor is there any evidence in the Rutenberg et al. '975 patent of any disclosure, teaching, or even a hint of a suggestion that processing hydrated splits, with the processing step including the substeps, **in either order, of flaking the splits and extruding the splits**, as recited in the claims, would have any reasonable expectation of success. To one of ordinary skill in the art, the teaching of the Rutenberg et al. '975 patent, taken as a whole, as it must, is unequivocal and clear, strongly **teaching away** from **flaking** and strongly teaching instead the advantages of **extruding** rather than **flaking**.

The teachings of a prior art reference **must be taken as a whole when evaluating obviousness rather than considered in bits and pieces**. *Panduit Corp. v. Dennison Mfg. Co.*, 1 U.S.P.Q.2d (BNA) 1593, 1597 (Fed. Cir.), *cert. denied*, — U.S. —, 107 S. Ct. 2187 (1987). “It is well settled that a prior art reference is relevant for **all** that it teaches one of ordinary skill in the art.” *In re Fritch*, 23 U.S.P.Q.2d (BNA) 1780, 1782 (Fed. Cir. 1992) (emphasis added). There can be **no motivation or suggestion to combine** references as a matter of law where one of the references **teaches away from the claimed invention**. *In re Fine*, 5 U.S.P.Q.2d (BNA) 1596, 1599 (Fed. Cir. 1988); *In re Gordon*, 221 U.S.P.Q. (BNA) 1125, 1127 (Fed. Cir. 1984). It is by now well established that **teaching away** by the prior art constitutes **prima facie** evidence that the claimed invention is **not obvious**. *See, inter alia, In re Fine*, 1599; *In re Nielson*, 2

U.S.P.Q.2d (BNA) 1525, 1528 (Fed. Cir. 1987); *In re Hedges*, 228 U.S.P.Q. (BNA) 685, 687 (Fed. Cir. 1986).

The Examiner attempts to supplement the Rutenberg et al. '975 patent by citing *In re Crockett*, 126 USPQ 186. However, the facts of *In re Crockett* are readily **distiguishable** from those of the present application. The prior art references at issue in *In re Crockett* “clearly teach that **both** magnesium oxide and calcium carbide, **individually**, promote the formation of a nodular structure in cast iron, and it would be natural to suppose that, **in combination**, they would produce **the same effect** and would **supplement each other**.” *In re Crockett*, 126 USPQ 186, 188 (emphasis added). “Even assuming, as appellant alleges to be the case, that the two together produce an effect somewhat greater than the sum of their separate effects, we feel that **the idea of combining them would flow logically from the teaching of the prior art** and therefore that a claim to their joint use is not patentable. *In re Heinrich*, 46 CCPA 933, 268 F.2d 753, 122 USPQ 388, **and cases there cited**.” *In re Crockett*, 126 USPQ 186, 188 (emphasis added). Moreover, *In re Heinrich*, and the cases cited there, namely, *In re Kepler*, 30 CCPA 726, 132 F.2d 130, 56 USPQ 177, and *In re Busch*, 45 CCPA 766, 251 F.2d 617, 116 USPQ 413, all stand for the proposition that a “patent should not be granted for appellant’s discovery of a result that would **flow naturally from the teachings of the prior art**.” *In re Kepler*, 56 USPQ 177, 180 (emphasis added).

Unlike the prior art references at issue in *In re Crockett*, the Rutenberg et al. '975 patent clearly teaches that “although the use of flattening (**flaker**) rolls gives a gum with higher viscosity-producing properties than gum prepared without the flattening rolls, **the use of an extruder under the same perational c nditions gives gums with much higher**

viscosity-producing properties” (col. 7, lines 15-20) (emphasis added). Therefore, the Rutenberg et al. '975 patent clearly teaches that *extruding, under the same operational conditions*, does *not* give *the same results* as *flaking*. Consequently, to one of ordinary skill in the art, referring to nothing other than the teachings of the Rutenberg et al. '975 patent, and without having the benefit of impermissible hindsight reconstruction based on the teachings of the present application, it would *not* be natural to suppose that, *in combination, flaking and extruding, in either order*, would produce *the same effect* and would *supplement each other*, *nor* would the idea of *combining flaking and extruding, in either order, flow logically from the teaching of the prior art*. Instead, to one of ordinary skill in the art, the Rutenberg et al. '975 patent strongly teaches that *extruding* is *far more preferable than flaking*, and, thus, it would *flow logically from the teaching of the Rutenberg et al. '975 patent only to extrude and not to flake at all*.

The MPEP at § 2144 states that legal precedent can provide the rationale supporting obviousness *only* if the facts in the case are *sufficiently similar* to those in the application:

The examiner must apply the law consistently to each application after considering all the relevant facts. If the facts in a prior legal decision are sufficiently similar to those in an application under examination, the examiner may use the rationale used by the court. If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection. “The value of the exceedingly large body of precedent wherein our predecessor courts and this court have applied the law of obviousness to particular facts, is that there has been built a wide spectrum of illustrations and accompanying reasoning, that have been melded into a fairly consistent application of law to a great variety of facts.” *In re Eli Lilly & Co.*, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990).

The facts in *In re Crockett* are not *sufficiently similar* to those here. In *In re Crockett*, distinct references effectively taught that two different processes, A and B, would each produce the *same* result, so that process A and process B could then be *logically combined* to produce

process A+B. Here, however, the Rutenberg et al. '975 patent **alone** effectively teaches that two different processes, **flaking** and **extruding**, each produce **very different** results, with **extruding** producing a result that is **far superior** to the result of **flaking**. One of ordinary skill in the art would therefore have had **no logical motivation** to **combine flaking together with extruding**. At best, **logically**, one of ordinary skill in the art would have expected such a combination to produce a result that was **inferior** to the result of **only extruding**. Consequently, one of ordinary skill in the art could **not** have had any **reasonable expectation of success** in **combining flaking together with extruding**, given the teachings of the Rutenberg et al. '975 patent and the **logical** inferences drawn therefrom.

Regarding the Examiner's § 103(a) specific rejections of independent claims 1, 3, 4, 23, and 25-26 as being allegedly unpatentable over the Rutenberg et al. '975 patent in view of the Dino '093 patent, the Harris '052 patent, and the portions of Applicants' specification cited by the Examiner, Applicants submit that, contrary to MPEP § 2143, the Examiner has failed to make out a *prima facie* case of obviousness in rejecting independent claims 1, 3, 4, 23, and 25-26 in that (1) the Examiner has failed to cite references that teach or suggest all of the elements recited in the rejected claims, and (2) the Examiner has failed to articulate a suggestion to combine the references with a reasonable expectation of success. Furthermore, the Examiner refers to "claims 41-70," on page 6 of the *Office Action* mailed July 3, 2003. Applicants do not understand this reference to claims that do not exist in the present application. Perhaps the Examiner is referring to claims in the parent patent application, Serial No. 09/501,559, filed February 9, 2000.

Applicants respectfully submit that the Rutenberg et al. '975 patent does not teach or suggest the foregoing methods recited in claims 1, 3, 4, 23, and 25-26 for all of the same reasons

set forth above in regard to the claims. Moreover, contrary to MPEP §§ 2143.01 and 2143.02, the Examiner has failed to articulate a suggestion to combine the Rutenberg et al. '975 patent with the Dino '093 patent, the Harris '052 patent, and the portions of Applicants' specification cited by the Examiner. The *prima facie* case of obviousness is thus yet further lacking.

As described above, the Rutenberg et al. '975 patent discloses hydrating, extruding, and grinding guar splits to produce a guar gum (col. 6, lines 22-26). The Rutenberg et al. '975 patent teaches that extruding the guar splits before grinding results in a guar gum with a higher viscosity than a guar gum produced by flaking the guar splits prior to grinding the guar splits (col. 5, line 65 to col. 6, lines 1-3; col. 7, lines 15-20). The Dino '093 patent teaches the use of reacting guar splits in a reactor with various chemicals to produce chemically altered guar products (col. 6, lines 5-28). The Harris '052 patent teaches the use of guar gum splits, water, and chemicals to form a gel comprising a chemically altered form of guar (col. 8, lines 35-38). Nothing in the Dino '093 patent and/or the Harris '052 patent teaches, discloses, or even suggests improving the hydration rate and hydration acceleration rate of a guar gum powder by **extruding and flaking** the guar splits. Moreover, nothing in Applicants' present specification teaches, discloses, or even suggests that improving the hydration rate and hydration acceleration rate of a guar gum powder by **extruding and flaking** the guar splits was well known in the art at the time the present application was filed.

Further, it is respectfully submitted that it would not have been obvious to modify the Rutenberg et al. '975 patent, the Dino '093 patent, the Harris '052 patent, and/or the portions of Applicants' specification cited by the Examiner to arrive at the invention recited by the claims. It is well-settled that a reference must provide some motivation or reason for one skilled in the art

(working without the benefit of hindsight reconstruction using Applicants' specification) to make the necessary changes in the disclosed device or method. The mere fact that a reference may be modified in the direction of the claimed invention does not make the modification obvious unless the reference expressly or impliedly teaches or suggests the desirability of the modification. *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984); *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. App. 1985); *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. App. 1984). Indeed, the Federal Circuit stated:

... To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction--an illogical and inappropriate process by which to determine patentability. *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985).

Sensonics Inc. v. Aerosonic Corp., 38 USPQ2d 1551, 1554 (Fed. Cir. 1996).

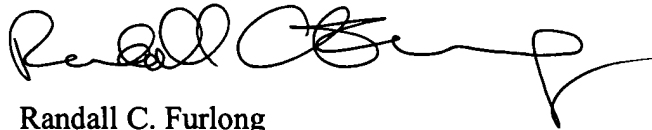
The Rutenberg et al. '975 patent, the Dino '093 patent, the Harris '052 patent, and/or the portions of Applicants' specification cited by the Examiner fail to meet the basic requirement for a finding of obviousness established by the courts in *Sensonics*, *Gordon*, *Clapp*, and *Chicago Rawhide*. There is no suggestion in the Rutenberg et al. '975 patent, the Dino '093 patent, the Harris '052 patent, and/or the portions of Applicants' specification cited by the Examiner to modify the processes disclosed therein in the direction of the present invention, nor is there any suggestion of the desirability of such modifications (*i.e.*, processing the hydrated splits, the processing step including the substeps, **in either order**, of *flaking the splits* and *extruding the splits*, and grinding said processed splits into a powder, **the powder having a particle size**,

wherein the particle size is *substantially unaffected by extruding the splits*). In fact, the Rutenberg et al. '975 patent actually **teaches away** from the inclusion of the flaking step in the process by downplaying the viscosity-enhancing effects of the flaking step. (col. 7, lines 15-20). Thus, it is respectfully submitted that the ordinarily skilled artisan would have had no motivation to modify the references as suggested by the Examiner. Therefore, it is respectfully requested that the rejection of claims 1, 19, 21, and 23, and claims 2-18, 20, 22, and 24-26 which depend therefrom, under 35 U.S.C. §103(a), be withdrawn.

In view of the foregoing, it is respectfully submitted that the application and all of the claims are in condition for allowance. Reexamination and reconsideration of the application, as preliminarily amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Houston, Texas telephone number (713) 758-4802 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,



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